What is claimed is:

1. A method for cell selection of an asynchronous mobile station in an asynchronous mobile communication system including the asynchronous mobile station and an asynchronous radio network, wherein the asynchronous radio network is interlocked with a core network, the method comprising the steps of:

a) storing information related to the core network transmitted from the asynchronous radio network in a memory (or) a user subscriber identity module (USIM) of the asynchronous mobile station before power-off of the asynchronous mobile station;

b) at power-on of the asynchronous mobile station, determining what type of the core network is interlocked by analyzing information of core network discriminator;

c) beginning any one of a global system for mobile communication (GSM) cell procedure and an American national standards institute (ANSI) cell procedure;

d) finding a cell suitable for providing a service, based on a type of the core network that was determined; and

e) performing a location registration of the found cell in order to provide a service.

2. The method as recited in claim 1, wherein in case the asynchronous radio network is interlocked with a global system for mobile communication-mobile application part (GSM-MAP)

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core network, the information related to the core network includes information of core network discriminator by which a type of the core network is discriminated and a public land mobile network identity (PLMN ID) which includes a mobile country code (MCC) and a mobile network code (MNC).

3. The method as recited in claim 1, wherein in case the asynchronous radio network is interlocked with American national standards institute-41 (ANSI-41) core network, the information related to the core network includes the information of the core network discriminator and information of a system identity (SID) and a network identity (NID).

4. The method as recited in claim 1, wherein the step b) includes the steps of:

b1) selecting the information of the core network discriminator having a maximum priority from a core network list which is stored in the USIM or the memory and is probable to be referred by the asynchronous mobile station;

b2) determining which the information of the core network discriminator indicates, the asynchronous core network or the synchronous core network;

b3) if the information of the core network discriminator indicates the asynchronous core network, selecting the PLMN ID having a maximum priority from the information related to the core network; and

b4) if the information of the core network discriminator

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indicates the synchronous core network, selecting a combination of the SID, the NID, a protocol revision (P_REV) and a minimum protocol revision (MIN_P_REV) having a maximum priority from the information related to the core network.

5. The method as recited in claim 4, wherein the step d) includes the steps of:

d1) when beginning the GSM cell procedure, finding a suitable cell wherein the asynchronous mobile station can perform a normal service by determining if information of a cell selection is stored in the memory or the USIM;

d2) if failing to find the suitable cell, finding an acceptable cell wherein the asynchronous mobile station can not perform the normal service but an emergency call; and

d3) if failing to find the acceptable cell, finding a cell having a maximum power.

6. The method as recited in claim 5, wherein the step d1) includes the steps of:

d11) if the information of the cell selection is stored in the memory or the USIM, finding a suitable cell that has information of the core network discriminator and a PLMN ID equal to the selected information of the core network discriminator and the selected PLMN ID based on the information of the cell selection;

d12) if the information of the cell selection is not stored in the memory or the USIM, finding a suitable cell that

has information of the core network discriminator and the PLMN ID equal to the selected information of the core network discriminator and the selected PLMN ID by searching all channels within a universal mobile telecommunication system terrestrial radio access (UTRA) band.

7. The method as recited in claim 6, wherein the step d11) includes the steps of:

d111) if failing to the suitable cell that has information of the core network discriminator and the PLMN ID equal to the selected information of the core network discriminator and the selected PLMN ID based on the information of the cell selection, finding a suitable cell that has information of the core network discriminator and the PLMN ID equal to the selected information of the core network discriminator and the selected PLMN ID by searching all channels within a universal mobile telecommunication system terrestrial radio access (UTRA) band.

8. The method as recited in claim 7, wherein the step d2) includes the steps of:

d21) if failing to find the suitable cell at the steps d111) or d12), finding the acceptable cell by searching all channels within a universal mobile telecommunication system terrestrial radio access (UTRA) band.

9. The method as recited in claim 8, wherein the step d3)

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includes the steps of:

d31) if failing to find the acceptable cell at the step d21), finding the cell having the maximum power by searching all channels within a universal mobile telecommunication system terrestrial radio access (UTRA) band.

10. The method as recited in claim 9, wherein the step e) includes the step of:

e1) when finding the suitable cell at the step d21), making out a candidate cell list that contains information about neighboring cells around the found suitable cell;

e2) making out a new candidate cell list that contains the information about the other cells except for some cells among the neighboring cells listed in the candidate cell list;

e3) performing the location registration of a cell having a maximum cell selection value; and

e4) determining if the location registration is performed successfully.

11. The method as recited in claim 10, wherein the information about the neighboring cells which have information of the core network discriminator and the PLMN ID equal to those about the found suitable cell, are contained in the candidate cell list.

12. The method as recited in claim 10, wherein the step e2) includes the steps of:

e21) receiving a system information message from the neighboring cells listed in the candidate cell list; and

e22) removing some cells which include a barred cell or a cell within a forbidden registration area from the candidate cell list.

13. The method as recited in claim 12, wherein the step e3) includes the steps of:

e31) calculating the cell selection values of each cell listed in the new candidate cell list;

e32) selecting cells each cell selection value of which is higher than zero, thereby storing the selected cell selection values in order of a high value in the memory or the USIM;

e33) selecting a cell having a maximum cell selection value from the stored cell selection values; and

e34) performing the location registration of the selected cell.

14. The method as recited in claim 13, wherein the step e4) includes the steps of:

e41) if succeeding in the location registration, storing the selected information of the core network discriminator and the selected PLMN ID in the memory or the USIM; and

e42) performing a normal service and a call processing.

15. The method as recited in claim 14, wherein the step

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e4) further includes the steps of:

e43) if failing in the location registration, determining if new usable PLMN ID exists;

e44) if the new usable PLMN ID exists, selecting a PLMN ID having a maximum priority from a PLMN list stored in the memory or USIM, and otherwise, going to the step e83);

e45) determining if the selected PLMN ID indicates a home public land mobile network (HPLMN);

e46) if the selected PLMN ID indicates the HPLMN, determining if the selected PLMN ID was used for a previous PLMN selection; and

e47) if the selected PLMN ID was not used for the previous PLMN selection, going the step d1).

16. The method as recited in claim 15, wherein the step e4) further includes the step of:

e48) if the selected PLMN ID doesn't indicate the HPLMN, going to the step d1).

17. The method as recited in claim 16, wherein the step e4) further includes the step of:

e49) if the selected PLMN ID was used for the previous PLMN selection, clearing the selected PLMN ID from the memory or the USIM and then going to the step e43)and determining if new usable PLMN ID exists.

18, The method as recited in claim 17, wherein the step

d12) includes the steps of:

d121) if succeeding in finding the suitable cell, going to the step e); and

d122) if failing to find the suitable cell, going to the step d2)

19. The method as recited in claim 18, wherein the step d2) includes the steps of:

d21) finding the acceptable cell by searching all channels within a universal mobile telecommunication system terrestrial radio access (UTRA) band; and

d22) determining if the acceptable cell is found.

20. The method as recited in claim 19, wherein the step e) includes the steps of:

ea1) making out a candidate cell list that contains information about neighboring cells around the found acceptable cell;

ea2) making out a new candidate cell list that contains the information about the other cells except for some cells among the neighboring cells listed in the candidate cell list;

ea3) performing the location registration of a cell having a maximum cell selection value; and

ea4) determining if the location registration is performed successfully.

21. The method as recited in claim 20, wherein the

information about the neighboring cells which have information of the core network discriminator and the PLMN ID equal to those about the found acceptable cell, are contained in the candidate cell list.

22. The method as recited in claim 21, wherein the step ea2) includes the steps of:

ea21) at the mobile station, receiving a system information message from the neighboring cells listed in the candidate cell list; and

ea22) removing some cells which include a barred cell or a cell within a forbidden registration area from the candidate cell list.

23. The method as recited in claim 22, wherein the step ea3) includes the steps of:

ea31) calculating the cell selection values of each cell listed in the new candidate cell list;

ea32) selecting cells each cell selection value of which is higher than zero, thereby storing the selected cell selection values in order of a high value in the memory or the USIM;

ea33) selecting a cell having a maximum cell selection value from the stored cell selection values; and

ea34) performing the location registration of the selected cell.

24. The method as recited in claim 23, wherein the step ea4) includes the steps of:

ea41) if succeeding in the location registration, storing the selected information of the core network discriminator and the selected PLMN ID in the memory or the USIM; and

ea42) performing a restrictive service and restrictive operations.

25. The method as recited in claim 24, wherein the step ea4) further includes the step of:

ea43) if failing to perform the location registration, going to the step e43)and determining if new usable PLMN ID exists.

26. The method as recited in claim 25, wherein the step d3) includes the steps of:

d31) searching all channels within the UTRA band;

d32) selecting a cell having a maximum power;

d33) making out a candidate cell list that contains information about neighboring cells around the selected cell; and

d34) going to the step ea2).

27. The method as recited in claim 26, wherein the information about the neighboring cells which have information of the core network discriminator and the PLMN ID equal to those about the selected cell, are contained in the candidate

cell list.

28. The method as recited in claim 19, wherein the step d22) includes the steps of:

d221) if finding the acceptable cell, going to the step ea1); and

d222) if failing to find the acceptable cell, going to the step d31).

29. The method as recited in claim 4, wherein the step d) further includes the steps of:

d4) when beginning the ANSI cell procedure, finding a suitable cell wherein the asynchronous mobile station can perform a normal service by determining if information of a cell selection is stored in the memory or the USIM;

d5) if failing to find the suitable cell, finding an acceptable cell wherein the asynchronous mobile station can not perform the normal service but an emergency call; and

d6) if failing to find the acceptable cell, finding a cell having a maximum power.

30. The method as recited in claim 29, wherein the step d4) includes the steps of:

d41) if the information of the cell selection is stored in the memory or the USIM, finding a suitable cell that has information of the core network discriminator and the SID, the NID, the MIN_P_REV and the P_REV equal to the selected

information of the core network discriminator and the selected
SID, NID, MIN_P_REV and P_REV based on the information of the
cell selection;

d42) if the information of the cell selection is not
stored in the memory or the USIM, finding a suitable cell that
has information of the core network discriminator and the SID,
the NID, the MIN_P_REV and the P_REV equal to the selected
information of the core network discriminator and the selected
SID, NID, MIN_P_REV and P_REV by searching all channels within
a universal mobile telecommunication system terrestrial radio
access (UTRA) band.

31. The method as recited in claim 30, wherein the step
d41) includes the steps of:

d411) if failing to the suitable cell that has the
information of the core network discriminator and the SID, the
NID, the MIN_P_REV and the P_REV equal to the selected
information of the core network discriminator and the selected
SID, NID, MIN_P_REV and P_REV based on the information of the
cell selection, finding a suitable cell that has information
of the core network discriminator and the SID, the NID, the
MIN_P_REV and the P_REV equal to the selected information of
the core network discriminator and the selected SID, NID,
MIN_P_REV and P_REV, by searching all channels within a
universal mobile telecommunication system terrestrial radio
access (UTRA) band.

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32. The method as recited in claim 31, wherein the step d5) includes the steps of:

d51) if failing to find the suitable cell at the steps d411) or d42), finding the acceptable cell by searching all channels within a universal mobile telecommunication system terrestrial radio access (UTRA) band.

33. The method as recited in claim 32, wherein the step d6) includes the steps of:

d61) if failing to find the acceptable cell at the step d51), finding a cell having a maximum power by searching all channels within a universal mobile telecommunication system terrestrial radio access (UTRA) band.

34. The method as recited in claim 33, wherein the step e) further includes the step of:

e5) when finding the suitable cell at the step d51), making out a candidate cell list that contains information about neighboring cells around the found suitable cell;

e6) making out a new candidate cell list that contains the information about the other cells except for some cells among the neighboring cells listed in the candidate cell list;

e7) performing the location registration of a cell having a maximum cell selection value; and

e8) determining if the location registration is performed successfully.

35. The method as recited in claim 34, wherein the information about the neighboring cells which have information of the core network discriminator and the SID, the NID, the MIN_P_REV and the P_REV equal to those about the found suitable cell, are contained in the candidate cell list.

36. The method as recited in claim 34, wherein the step e6) includes the steps of:

e61) receiving a system information message from the neighboring cells listed in the candidate cell list; and

e62) removing some cells which include a barred cell or a cell within a forbidden registration area from the candidate cell list.

37. The method as recited in claim 36, wherein the step e7) includes the steps of:

e71) calculating the cell selection values of each cell listed in the new candidate cell list;

e72) selecting cells each cell selection value of which is higher than zero, thereby storing the selected cell selection values in order of a high value in the memory or the USIM;

e73) selecting a cell having a maximum cell selection value from the stored cell selection values; and

e74) performing the location registration of the selected cell.

38. The method as recited in claim 37, wherein the step e8) includes the steps of:

e81) if succeeding in the location registration, storing the selected information of the core network discriminator and the selected SID, NID, MIN_P_REV and P_REV in the memory or the USIM; and

e82) performing a normal service and a call processing.

39. The method as recited in claim 38, wherein the step e8) further includes the steps of:

e83) if failing to perform the location registration, determining if new usable combination of the SID, the NID, the MIN_P_REV and the P_REV exists;

e84) if the new usable combination of the SID, the NID, the MIN_P_REV and the P_REV exists, selecting a combination of the SID, the NID, the MIN_P_REV and the P_REV having a maximum priority from the SID, the NID, the MIN_P_REV and the P_REV list stored in the memory or USIM, and otherwise, going to the step e43);

e85) determining if the selected MIN_P_REV is equal to or lower than a mobile protocol revision (MOB_P_REV) of the asynchronous mobile station;

e86) if the selected MIN_P_REV is equal to or lower than the MOB_P_REV of the asynchronous mobile station, determining if the selected SID, NID and P_REV are equal to HOME SID, NID and P_REV;

e87) if the selected SID, NID and P_REV are equal to the

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HOME SID, NID and P_REV, determining if the selected combination of the SID, the NID, the MIN_P_REV and the P_REV was used for a previous PLMN selection;

e88) if the selected combination of the SID, the NID, the MIN_P_REV and the P_REV was not used for the previous PLMN selection, going the step d4).

40. The method as recited in claim 39, wherein the step e8) further includes the step of:

e89) if the selected MIN_P_REV is not equal to or lower than the MOB_P_REV of the asynchronous mobile station, going to the step d4).

41. The method as recited in claim 40, wherein the step e8) further includes the step of:

e90) if the selected SID, NID and P_REV are not equal to the HOME SID, NID and P_REV, going to the step d4).

42. The method as recited in claim 41, wherein the step e8) further includes the step of:

e91) if the selected combination of the SID, the NID, the MIN_P_REV and the P_REV was used for the previous PLMN selection, clearing the selected combination of the SID, the NID, the MIN_P_REV and the P_REV from the memory or the USIM and then going to the step e83).

43, The method as recited in claim 30, wherein the step

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d42) includes the steps of:

d421) if succeeding in finding the suitable cell, going to the step e); and

d422) if failing to find the suitable cell, going to the step d5)

44. The method as recited in claim 43, wherein the step d5) includes the steps of:

d51) finding the acceptable cell by searching all channels within a universal mobile telecommunication system terrestrial radio access (UTRA) band; and

d52) determining if the acceptable cell is found.

45. The method as recited in claim 44, wherein the step e) further includes the steps of:

ea5) making out a candidate cell list that contains information about neighboring cells around the found acceptable cell;

ea6) making out a new candidate cell list that contains the information about the other cells except for some cells among the neighboring cells listed in the candidate cell list;

ea7) performing the location registration of a cell having a maximum cell selection value; and

ea8) determining if the location registration is performed successfully.

46. The method as recited in claim 45, wherein the

information about the neighboring cells which have information of the core network discriminator and the SID, the NID, the MIN_P_REV and the P_REV equal to those about the found acceptable cell, are contained in the candidate cell list.

47. The method as recited in claim 46, wherein the step ea6) includes the steps of:

ea621) receiving a system information message from the neighboring cells listed in the candidate cell list; and

ea62) removing some cells which include a barred cell or a cell within a forbidden registration area from the candidate cell list.

48. The method as recited in claim 47, wherein the step ea7) includes the steps of:

ea71) calculating the cell selection values of cells listed in the new candidate cell list;

ea72) selecting cells each cell selection value of which is higher than zero, thereby storing the selected cell selection values in order of a high value in the memory or the USIM;

ea73) selecting a cell having a maximum cell selection value from the stored cell selection values; and

ea74) performing the location registration of the selected cell.

49. The method as recited in claim 48, wherein the step

ea8) includes the steps of:

ea81) if succeeding in the location registration, storing the selected information of the core network discriminator and the selected SID, NID, MIN_P_REV and P_REV in the memory or the USIM; and

ea82) performing a restrictive service and restrictive operations.

50. The method as recited in claim 49, wherein the step ea8) further includes the step of:

ea83) if failing to perform the location registration, going to the step e83)and determining if new usable combination of the NID, the SID, the MIN_P_REV and the P_REV exists.

51. The method as recited in claim 50, wherein the step d6) includes the steps of:

d61) searching all channels within the UTRA band;

d62) selecting a cell having a maximum power;

d63) making out a candidate cell list that contains information about neighboring cells around the selected cell; and

d64) going to the step ea6).

52. The method as recited in claim 51, wherein the information about the neighboring cells which have information of the core network discriminator and the SID, the NID, the

MIN_P_REV and the P_REV equal to those about the selected cell, are contained in the candidate cell list.

53. The method as recited in claim 44, wherein the step d52) includes the steps of:

d521) if finding the acceptable cell, going to the step ea5); and

d522) if failing to find the acceptable cell, going to the step d61).

54. The method as recited in claim 1, wherein the step b) further includes the step of:

b5) if the information of the core network discriminator indicates the asynchronous core network and the synchronous core network, selecting one of both core networks.

55. The method as recited in claim 54, wherein one of both core network is selected based on a selection algorithm stored in the asynchronous mobile station or a user.

56. The method as recited in claim 54, wherein the step b5) includes the steps of:

b51) determining if the selected core network is the GSM-MAP core network;

b52) if the selected core network is the GSM-MAP core network, going to the step b3); and

b53) if the selected core network is the ANSI-41 core

network, going to the step b4).